



ARBORICULTURAL IMPACT ASSESSMENT

At

**WEYMOUTH HOUSE,
CHURCH ROAD,
BISHOPSTOKE, HAMPSHIRE**

For:

HALL AND ENSOM ARCHITECTS

On behalf of

MR & MRS ADCOCK

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*This report is the responsibility of Arbor-Eco Consultancy.
It should be noted that whilst every effort is made to meet the client's brief,
no site investigation can ensure complete assessment
or prediction of the natural environment.*

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1. INTRODUCTION

1.1 PROJECT BACKGROUND

Mr & Mrs Adcock commissioned Arbor-Eco Consultancy to compile an Arboricultural Impact Assessment following the undertaking of an Arboricultural Survey of trees situated on land at Weymouth House, Church Road. The site is within the administrative boundary of Eastleigh Borough Council and within the county of Hampshire.

This report details the impact that the proposed development will have upon the site's existing tree stock and sets out recommendations for the subsequent mitigation or avoidance of impact. The study has been completed in accordance with guidance contained within British Standard BS5837:2012 'Trees in relation to design, demolition and construction – Recommendations'.

1.2 SITE DESCRIPTION

The proposed development of land is located within a populated area of Bishopstoke and situated towards the northern fringes of the settlement. The site is situated off Church Lane, minor road. The site comprised of the exiting residential property, areas of hard surfacing, amenity grassland and bound by a mix of boundary features. The trees and vegetation surveyed were growing predominantly within off-site positions.

The site is delineated from neighbouring land by a mix of fencing, vegetation and boundary features. To the north, the site abuts Church Lane, minor road. The eastern and western boundaries were demarcated by further properties off Church Lane, minor road. The southern boundary abuts properties off Bishops Court, minor road. The site is centred at National Ordnance Survey Grid Reference SU 46955 20289.

The topography of the survey area is generally flat to the rear aspect with an elevated section which was once an access road to an orchard.

Arbor-Eco Consultancy, Tree Constraints Plan, Drawing Number MB230114-01-01 in Section 5 indicates the location of the trees surveyed.

1.3 DEVELOPMENT PROPOSALS

It is understood that the site surveyed will be the subject of a planning application to include the demolition of the existing defunct outbuilding in order to rebuild the outbuilding with modern materials.

1.4 DOCUMENTATION PROVIDED

This assessment is based upon the information provided by the client in addition to information collected by Arbor-Eco Consultancy. The documents and drawings considered are detailed within Table 1.1.

Author	Document	Document Number	Date
P Stubbington Land Surveys Ltd	Topographical Survey Drawing	9705/01/A	Mar 2022
WRD Engineers	General Structural Inspection	WRDEL\W73963A\211221 sgh GSI (1/10)	Dec 2021

Table 1.1: Documentation Provided

2. STATUTORY PROTECTION

2.1 TREE PRESERVATION ORDER AND CONSERVATION AREA DESIGNATIONS

Examination of Eastleigh Borough Council (2023) interactive mapping system <https://emaps.eastleigh.gov.uk/webmaps> accessed on 24th January 2023, indicated that all of the trees located within off-site positions are the subject of a Tree Preservation Order (TPO).

The Town and Country Planning (Tree Preservation) (England) Regulations 2012, Part 4 – Applications for Consent under Tree Preservation Orders states that an application for consent to the cutting down, topping, lopping or uprooting of any tree in respect of which an order is for the time being in force shall be made in writing to the authority on a form published by the Secretary of State for the purpose of proceedings under these Regulations.

Until such time as the application has been granted no works must be undertaken on the trees identified as being subject to TPOs that contravene the order. Works include pruning, topping, lopping, uprooting or wilfully damaging these trees. Any proposed pruning works will need to be fully specified and agreed within any planning application. If works are not included within the planning application, a separate TPO application will be required to be submitted to the Local Authority for permission to undertake any works (approximately an 8-week process).

Apart from [limited exceptions](#), permission must be sought from the local planning authority by submitting a standard application form. The form is available from the Local Authority [Planning Portal](#). It is important that the information on the form makes clear what the proposed work is and provides adequate information to support the case.

The authority's consent is not required for carrying out work on trees subject to an Order so far as such work is necessary to implement a full planning permission. For example, the Order is overridden if a tree has to be removed to make way for a new building for which full planning permission has been granted. Conditions or information attached to the permission may clarify what work is exempt.

Further examination of Eastleigh Borough Council (2023) interactive mapping system <https://emaps.eastleigh.gov.uk/webmaps> accessed on 24th January 2023, indicated that the site is not situated within a Conservation Area.

2.2 PROTECTED SPECIES

Birds

The Conservation of Habitats and Species Regulations 2017 (as amended) places a duty on public bodies to take measures to preserve, maintain and re-establish habitat for wild birds. Nesting and nest building birds are protected under the Wildlife and Countryside Act WCA 1981 (as amended). Several bird species are Species of Principal Importance for Nature Conservation in England, making them capable of being material considerations in the planning process.

As the trees on, and adjacent, to the site provide potential habitat for nesting birds all tree work should ideally be completed outside the nesting bird season (generally March to September). If this is not possible then the vegetation should be subject to a nesting bird inspection by a suitably experienced ecologist prior to commencement of works. If any active nests are identified then the vegetation, and a defined buffer zone, will need to remain in place until the young have naturally fledged.

Bats

Bats and the places they use for shelter or protection (i.e., roosts) receive European protection under The Conservation of Habitats and Species Regulations 2017, as amended (Habitats Regulations 2010, as amended). They receive further legal protection under the Wildlife and Countryside Act (WCA) 1981, as amended. This protection means that bats, and the places they use for shelter or protection, are capable of being a material consideration in the planning process.

Disturbance of animals includes in particular any disturbance which is likely to impair their ability to survive, to breed or reproduce, or to rear or nurture their young, or in the case of animals of a hibernating or migratory species, to hibernate or migrate; or to affect significantly the local distribution or abundance of the species to which they belong. As bats re-use the same roosts (breeding site or resting place) after periods of vacancy, legal opinion is that roosts are protected whether or not bats are present.

Generally, should the presence of a bat roost be suspected whilst completing works on any trees on site then an appropriately licensed bat worker should be consulted for advice.

2.3 OCCUPIERS' LIABILITIES ACT 1957 AND 1984

An occupier of premises owes the same duty, the "common duty of care", to all his visitors whether by invite or otherwise. The common duty of care is a duty to take such care as in all the circumstances of the case is reasonable to see that the 'visitor' will be reasonably safe in using the premises for the purposes for which he is invited or permitted by the occupier to be there or for purposes other than that which they have been invited (trespassers).

3. ARBORICULTURAL IMPACT ASSESSMENT

3.1 INTRODUCTION

All trees within and closely surrounding the site have been surveyed and each has been identified with a unique number. The location of the trees can be found on Drawing Number MB230114-01-01 in Section 5.

Strong considerations and discussion have taken place to design the proposed with the safety and protection of all trees surveyed.

A schedule of the trees surveyed can be found within Appendix 1.

3.2 DEVELOPMENT DESIGN AND LONG-TERM IMPACTS

3.2.1 Potential Impact on the Amenity Value of Trees

Impacts

Tree Removal

The proposed development will not require the removal of any trees. There is a requirement to prune back overhanging vegetation to permit its successful implementation.

In accordance with the Town and Country Planning (Tree Preservation) (England) Regulations 2012, Part 4 – Planning Application for tree work to trees that are the subject of a Tree Preservation Order. This report represents the necessary submission to carry out tree works to trees that are protected to permit the successful implementation of the proposed development.

Proposed Tree Works

An individual Cherry tree, T6, was identified to be growing asymmetrically due to phototropic restrictions caused by nearby trees. This has caused the tree to grow over the outbuilding and will require to be branch tip pruned away from the roof line and crown lifted to 5 m above ground level.

Tree number 9, Japanese Maple, is growing close to the development site and it is recommended that in favour of pruning the tree, the branches are tied back into the stem as a temporary solution to prevent damage.

Mitigation/Avoidance

The tree work required is of a negligible nature and overall considered to be insignificant. This proposed tree work will not have a detrimental effect on the character of the site or the amenity value of the trees.

Impacts

Branch Spread

It is evident that an existing tree management regime existed, in the form of pruning and pollarding as noted at the time of the survey, and it is noted that any future conflict that may arise from the proposed development can be appropriately managed through continued management works to the tree's canopy. So long as such works are completed in accordance with best practice guidance, they will not cause significant harm to the health or amenity value of the tree.

Shading

The proposed development will experience some shading during the day as the sun tracks across the horizon. However, this building is an outdoor building, non-living space and whilst some sunshine will benefit anyone working inside, it is not a constraint to the development.

Leaf Litter, Fruits, Pollen, Sap etc.

The trees are species associated with significant fruit fall, leaf and branch drop or sap exudate problems, however, the inconvenience experienced can be overcome by implementing good housekeeping.

Mitigation/Avoidance

Trees adjacent to this site will be the subject of cyclical pruning as the trees continue to grow as was evident. Further works may be required in the future to prevent conflict occurring. However, such works will not be significant as to impact the long-term visual quality of the trees.

Any shading felt inside the building will likely be a welcome feature as climate change has inflicted a number of heatwaves and a drought in recent years.

With respect to leaf litter, it is noted that the sweeping up of leaves and cleaning of gutters, which may become blocked by falling leaves, is considered to be routine seasonal household maintenance and, as such, no notable conflict with the proposed development is considered to occur. The occupants have dealt with any inconvenience successfully in the past and there is no reason to doubt that this will continue. Nonetheless it may prove appropriate in certain areas to use gutter guards, or otherwise enclosed gutters, to minimise the potential for leaf fall to cause blockage and an ongoing nuisance.

3.3 POTENTIAL IMPACTS FROM CONSTRUCTION PROCESSES OF THE PROPOSED DEVELOPMENT

3.3.1 Potential Root and Canopy Protection

To prevent harm occurring to retained trees during development it is recommended that demolition and construction works are excluded from the Root Protection Areas (RPA) of retained trees. Additionally, works should not be undertaken beneath the canopy spread of retained trees where this can be avoided.

The RPA represents the minimum area around trees that must be left undisturbed to ensure their survival. The roots typically occupy the top 600 mm of soil and the fine roots which absorb water, oxygen and nutrients are situated in the top 100 mm of soil. Any incursion into the rooting zone of a tree can cause a notable impact upon a tree's health.

Where existing buildings and areas of hard surfacing exists within the RPA of retained trees it is very likely that the rooting will have occurred asymmetrically due to the hard structures and the morphology of the roots is such that they are likely to have formed a fan shape with many roots running parallel to the man-made structures rather than being offset so far in to the site. The current RPA is shown in accordance with the guidance within BS5837:2012 which is effectively a presumed calculation of the extent of a tree's root system that is required to ensure the continued vigour of a tree. For the benefit of this report, it is assumed that conflict with the roots of retained trees will be insignificant and that the roots shown within the site will be protected.

Demolition and construction work carried out within the RPAs of the retained trees will cause the greatest damage. Soil that has been compacted will not provide suitable conditions for the survival and growth of vegetation, whether existing or new, and is a common cause of post-construction tree loss on development sites. Compacted soil will adversely affect drainage, gas exchange, nutrient uptake and organic content, and will seriously impede or restrict root growth. The risk of soil compaction is greatest in soils with a significant clay content and in wet conditions. It can result from temporary or short-term loadings, such as the passage of a single vehicle, or from longer-term construction activities, including materials storage.

The RPA and canopy spread of each tree to be retained is shown on Arbor-Eco Consultancy, Tree Protection Plan, Drawing Number MB230114-01-02, Section 5. Additionally, details of the crown spread

measurements are contained within Appendix 1 and a schedule of RPAs for trees on the site is located at Appendix 2.

Impacts

The proposed development of the site has been designed so that justifiable works are required within the RPAs of all trees.

The demolition of the existing building will be carried out and conducted from the existing hard surfacing within the site or upon ground protection as discussed. Therefore, it is considered that no significant impact with the retained trees shall occur. See Section 3.3.6 for more details.

Whilst it has been acknowledged that the proposed redevelopment is shown to be within the RPAs of a number of trees, there will be limited impact with the retained trees. Utilising the existing footprint of the demolished building, and using existing footings, there is unlikely to be any conflict with the trees. The intention is to utilise any compacted ground, existing foundations and hard surface to rebuild a modern outbuilding to avoid any compaction and consequent damage to the roots of the trees. See Section 3.3.7.

Overall, it is considered that the potential for harm to occur to the root systems of retained trees can be adequately controlled through the adoption of appropriate working practices and erection of protective barriers, including elements of ground protection, to exclude access from vulnerable sections of trees RPAs.

Mitigation/Avoidance

Construction Exclusion Zones

To minimise the potential for harm to occur to the root systems and canopies of retained trees during development it will be necessary to implement construction exclusion zones throughout the site. These are areas surrounding the trees' RPAs and canopies in which no demolition or construction works, or related activities, will be undertaken. These zones will be demarcated by the erection of tree protection barriers prior to any works (with the exception of tree works) being carried out.

It is recommended that the exclusion zones are afforded protection at all times through the use of tree protection barriers and ground protection (specified in accordance with BS5837:2012. Tree protection barrier uprights driven into the ground must adopt the procedures as specified within Section 3.3.9.

Where hard surfacing already exists on site, consideration should be given so that these areas will be retained and utilised as ground protection within the RPAs of retained trees until the replacement of hard landscaping is implemented into the construction phase of the development. The retention of the hard surfacing is deemed suitable ground protection and therefore the conflict with retained trees' roots is eliminated.

Where the replacement of hard surfacing is being considered then retaining the sub-base hard-core layer will also reduce the risk of root damage.

Where the scaffold towers are erected within the RPAs of the retained trees the following approach should be adopted;

1. Apply the following ground protection within the RPA of the tree prior to the realignment of the tree protection barriers if required;

- a. For pedestrian movements only, a single thickness of scaffold boards placed either on top of a driven scaffold frame, so as to form a suspended walkway, or on top of a compression-resistant layer (e.g., 100 mm depth of woodchip), laid onto a geotextile membrane.
2. Construct the scaffold vertical tubes upon wooden blocks (to distribute the point load) with suspended walkways ensuring a layer of impermeable membrane is placed beneath the scaffold to catch any falling debris such as curing cement as this can be phytotoxic to the roots of vegetation. All pedestrian access will use the suspended scaffold walkways as defined by the tree protection barriers as shown on Arbor-Eco Consultancy Tree Protection Plan Drawing Number MB230114-01-02, Section 5.
3. Fit scaffold boards to provide a walkway of 1.5 m width.
4. Any vegetation obstructing access or deemed to be within eye-strike shall only be removed if the specification has been detailed in Section 3.2.1. If this is not the case then the Contracts Manager shall seek the authority of the retained Project Arboriculturalist or Arboricultural Officer for the Local Authority.

To restock materials around the scaffold towers, further ground protection may be required and therefore the Contracts Manager will be responsible for the installation and supervision of this works. Once this has been carried out the retained Arboricultural Consultant will be contacted to confirm the suitability and location.

Arbor-Eco Consultancy, Tree Protection Plan, Drawing Number MB230114-01-02, Section 5, indicates the location of tree protection barriers and ground protection.

All works within the RPA of a retained tree should be carried out under the supervision of the retained Arboricultural Consultant. All tree protection measures should be confirmed for their position and suitability prior to any construction works being carried out (See Section 3.3.14 for contact details).

3.3.2 Site Construction Access

Impacts

Construction access to the site will need to make use of the existing access routes in to the site off Church Lane, minor road.

Mitigation/Avoidance

All trees surrounding the potential access routes should be adequately fenced, pruned and ground protection installed (where required) to ensure that no damage to these specimens occurs during construction.

The retained Arboricultural Consultant shall submit a summary written report or email to the local authority confirming that all tree protection measures are in place, fit for purpose and adequately signed prior to construction or demolition works being carried out.

3.3.3 Contractors Parking

Impacts

Machinery and pedestrians passing through or within the RPAs of trees will compact the ground and potentially starve the tree of nutrients, water and oxygen. It is important not to compact any unmade ground by securing the area with tree protection barriers or installing ground protection.

Mitigation/Avoidance

The location of contractor parking has not been declared but it is recommended that it should occur to the front aspect of the site as shown on Tree Protection Plan, Drawing Number MB230114-01-02, Section 5 and well away from the RPAs of retained trees.

The Contracts Manager is to ensure that all highway laws are respected and no parking is to occur on any highway verge or obstruct neighbouring land access.

3.3.4 Site Cabins and Welfare Facilities

Impacts

Vehicles, equipment and pedestrians passing through or within the RPAs of trees will compact the ground and potentially starve the tree of nutrients, water and oxygen. It is important not to compact any unmade ground by securing the area with tree protection barriers or installing ground protection.

Mitigation/Avoidance

Installation of protective barriers and ground protection to ensure that trees are protected from physical damage resulting from works to establish a Site Cabins and Welfare Facilities. The location of the site compound has yet to be decided but it is recommended that it should occur to the front aspect of the site as shown on Tree Protection Plan, Drawing Number MB230114-01-02, Section 5, and well away from the RPAs of retained trees.

3.3.5 Delivery and Storage of Materials

Impacts

The proposed locations for site deliveries and materials storage during the development is yet to be determined; however, it is understood that it will occur outside of the RPAs of retained trees.

Mitigation/Avoidance

Ensure no storage occurs upon un-surfaced ground within the defined RPAs of the retained trees via the installation of protective barriers and ground protection. A suitable section of land for a site compound has been highlighted on Drawing Number MB230114-01-02, Section 5.

3.3.6 Demolition of Existing Structures

Impacts

The proposed development of the site will require the demolition of the existing building to provide the space required to construct the new outbuilding.

The location of any vehicles or machinery will remain outside of the RPAs of retained trees or upon the designated ground protection.

To prevent any ancillary works associated with the demolition of the building from harming trees it will be necessary to install protective barriers prior to commencement of demolition works.

Mitigation/Avoidance

So long as good working practice is adopted in conjunction with suitable tree and ground protection utilising a top-down, pull-back demolition technique then the impact to the retained trees will be significantly reduced.

The initial 'breaking up' of any hard surface within the RPA of the retained trees should be done with low impact pneumatic tools (not breakers attached to construction vehicles) or by hand if possible. The demolition and removal of any hard surfacing within the RPA of retained trees should be carried out under

the supervision of the retained Arboricultural Consultant (See Section 3.3.14). Tree numbers 5, 6 and 9 are deemed the most vulnerable from the demolition works.

At no time during any demolition activity will vehicles track across unmade ground. Slewing vehicles will be controlled using a banksman to ensure that at no time will the canopies of the trees be damaged. The Project Arboriculturist will provide feedback of this operation to the Arboricultural Officer for Eastleigh Borough Council (See Section 3.3.14 for contact details).

Arbor-Eco Consultancy, Tree Protection Plan, Drawing Number MB230114-01-02, Section 5, indicates the locations of the tree protection measures for this activity.

3.3.7 Construction of Buildings

Impacts

The proposed construction of the new outbuilding will require the erection of scaffolding and the provision of working space within proximity of retained trees. The potential for conflict with these trees is considered justified so long as good working practices and advice within this report is adopted. Furthermore, tree protection (barriers and ground) should be provided along with an element of facilitation pruning.

Work to install foundations for the proposed development will have the greatest potential for damage to retained trees. Traditional foundations can realistically be used due to the incursion in to the RPAs of the existing foundations and hard surfacing around retained trees. This would require further investigation once the building has been demolished (see mitigation for more details).

Where uneven ground exists within the RPAs of retained trees the in-filling or augmentation of land can have a detrimental effect on the underlying roots. Adding soils at a depth greater than 75 mm can begin to cause compaction and prevent the percolation of life supporting nutrients, water and oxygen to trees' roots.

The removal of soil to achieve level ground can also be detrimental to the roots of the retained trees. Fibrous feeder roots are normally located at 100 mm below the soils surface and therefore the removal of soils to achieve levels will destroy these roots and ultimately have an effect on the canopy development.

It is well documented that any change in soil level around the base of a tree can cause suffocation, reduce the percolation of vital life supporting elements such as water, oxygen and nutrients. Any level change is to be avoided and no soil level change should occur around a root collar or root crown as this can suffocate the tree. Epicormic growth of Oak trees is a significant sign of stress. Apical dieback can be a result of poor nutrient and water uptake and dieback of branches may be a result of additional internal stresses.

As previously discussed, and reiterated here, research has revealed that as little as 100 to 150 mm of fill placed over the roots of some tree species has caused serious deteriorating health conditions. Species and site conditions can vary and there can be other factors that impact on one tree and not another. Reduced soil aeration restricts the supply of oxygen to roots, which is required for aerobic respiration. As a consequence of poorly aerated soils, root respiration becomes anaerobic, which is inefficient and causes root growth and essential functions such as mineral uptake to reduce or stop altogether, which can threaten the health of the whole tree. Although aeration deficit may play a role in fill-induced plant injury, other factors may play an equal or greater role. In particular, altered water relations, soil compaction and mechanical injury to roots are possibly as problematic if not more so than aeration. Reductions in the availability of water to trees can result from changes in runoff and infiltration, reduced water-holding capacity, diversion of streams and drainage of the water table. From the above extract, it can be seen that building up ground within the RPA of a tree can be detrimental.

Mitigation/Avoidance

To minimise the risk of damage occurring to the tree's crowns during construction it will be necessary to undertake some access facilitation pruning works, as detailed in Section 3.2.1. In addition, securing the canopy of tree number 9 would be of benefit to the tree.

It is likely but unclear whether there are suitable structural foundations that will support the new building. The General Structural Inspection report provided by WRD Engineers suggest that new foundations will be required. However, until such time as the existing building has been demolished and a further investigation is conducted it is unclear what, if any, foundations will be required.

If, after demolition and investigation has taken place, there is a requirement for new footings or foundations, then any excavation work will be conducted in the presence of the retained Arboricultural Consultant and further advice or guidance provided. The unknown does not allow any further provision for guidance at this stage; however, it is felt that with suitable periods of supervision a solution will be available if needed (see below).

Should roots be discovered that are considered vital to the trees' health and vitality, a contingency of mini-piles augured into the ground with a concrete plinth supported on pile caps can be utilised (other products are available). Alternatively, Pile and Ring Beam Foundations (or similar) should be investigated.

Piles are placed about every 2.5m under the main walls, and at corners and intersections. Once firm stratum is reached, they can be topped with mushroom-like 'pile caps' on to which horizontal reinforced concrete ring beams (aka 'ground beams') are installed to support the main walls. There are four main types of mini-piling ('micro pile') systems:

1. Augured piling is widely used in clay subsoil and involves drilling holes (200 mm to 600 mm in diameter) as deep as 24 m with an 'auger' (a rotating shaft with cutting blades). Once drilled, the auger is withdrawn and the hole filled with steel-reinforced concrete. This is the least expensive and most common method, and is virtually vibration free. On sites with very restricted access, lightweight hand auger tripods can drill with a diameter of up to 300 mm and to a depth of 13 m.
2. Continuous flight auger (CFA) piles are used in unstable or water-bearing ground. The main difference from augured piling is that the drilling pieces are hollow so concrete can be pumped directly to the bottom of the hole as the auger is withdrawn.
3. Driven piles use a steel casing and are suitable for wet, unstable or contaminated ground. More economical than the CFA method, these piles come in sizes varying from 150 mm to 320 mm. The casing is first placed in a small pilot hole and then pushed into the ground using a suitable weight on a hydraulic pile driver. One benefit of this method is that it creates little or no spoil, saving on transport and disposal, thus also reducing the carbon footprint.
4. Screw piles (also known as helical piles) are akin to giant wood screws — these hollow tubular steel piles are wound into the ground by machine with no prior excavation. The main benefit is fast installation and minimal soil displacement and disposal.

Piles are concrete columns drilled deep into hard bedrock to securely anchor the building, aided by frictional resistance from the surrounding ground. This method has become much more common in housebuilding since the advent of cheaper short-bored systems installed using hired mini-piling rigs. It's now the most widely used foundation type after conventional trenches, thanks in no small measure to planning requirements encouraging retention of trees.

In accordance with BS5837:2012 all areas of construction activity within the RPA should be supervised by the retained Arboricultural Consultant (See Section 3.3.14 for contact details).

The construction work will require access into the RPAs of retained trees and therefore a modicum of ground protection will be required. In addition, and in order to minimise the compaction of the ground within the RPAs of retained trees, the scaffold will be of suspended walkways. See Section 3.3.1 for details.

The potential for direct damage to the stems of the trees will be controlled by the installation of protective barriers as shown on Arbor-Eco Consultancy, Tree Protection Plan, Drawing Number MB230114-01-02, Section 5.

3.3.8 Construction of New Hard Surfacing

Impacts

It has been declared that no new hard surfacing is proposed.

Mitigation/Avoidance

None required.

3.3.9 Boundary and Ancillary Structures

Impacts

It is not understood if any existing boundary features are to be replaced or renewed at this time.

Mitigation/Avoidance

The location of any concrete foundations and supporting posts needs to be carefully considered to ensure no damage to the adjacent trees occurs. For example, due to the highly alkaline leachate produced during the curing process of wet concrete, the concrete should not be poured within the RPA of a retained tree unless an impermeable liner has been installed.

Additionally, any new fence posts should not be constructed within 1.0 m of the stem of any retained tree. Consideration for the use of half-panels to relocate fence posts away from retained trees by measuring site boundaries beforehand is recommended. This will reduce the amount of excavation for post foundations required within the RPAs of the retained trees. Any excavation for fence posts in RPAs will need to occur by hand and under arboricultural supervision to ensure no root damage occurs.

In accordance with BS5837:2012 all areas of construction activity within the RPA should be supervised by the retained Arboricultural Consultant (See Section 3.3.14 for contact details).

3.3.10 Site Gradients

Impacts

There is no declared intention to alter the gradients at this site.

Mitigation/Avoidance

None required.

3.3.11 Service Requirements

Impacts

There are already services within the site and it is considered that various opportunities to create new service connections without harming trees exist.

Mitigation/Avoidance

The methodology for the installation, maintenance or removal of any services within an RPA will be in accordance with NJUG Volume 4 'Guidelines for the Planning, Installation and Maintenance of Utility Services in Proximity to Trees'. This will include hand dug 'broken' trenches to ensure that maximum protection is given to tree roots.

It is advised that the installation of any new services and drainage occur outside the RPAs of the retained trees. It is also advised that CCTV and lighting columns should not be situated in locations which will place future pressure on trees for crown pruning due to visibility/shadowing. Any lighting bollards, road signage or similar structures that require to be fixed to the ground with underground services shall be fitted outside of the RPAs of retained trees.

All areas of construction activity within the RPA of a retained tree should be supervised by the retained Arboricultural Consultant (See Section 3.3.14 for contact details).

3.3.12 Soft Landscaping

Impacts

Cultivated land within the RPA of a retained tree can damage underlying roots. Compaction from pedestrian or small machinery can reduce the percolation of nutrients, water and oxygen reaching the roots. Therefore, care must be exercised around trees when landscaping work takes place.

It must be remembered that the future management of any of these trees must be reasonable and practical without undue stress or harm coming to these trees.

It is understood that no landscaping is to take place at this time.

Mitigation/Avoidance

It is understood that a number of small garden trees appropriate for the size of the garden are to be chosen. A suitable selection is offered below; however, this list is not exhausted and many of these trees may not suit the final garden requirement.

- *Crataegus laevigata* 'Paul's Scarlet'
- *Malus* Red Obelisk' Crab Apple
- *Malus* 'Evereste' Crab Apple
- *Betula utilis jacquemontii* 'Snow Queen' Himalayan Birch
- *Magnolia* 'Susan' Dwarf Purple Magnolia
- *Ginkgo biloba* 'Princeton Sentry'
- *Pyrus calleryana* 'Capital' Ornamental Pear

Any soft landscaping within the construction exclusion zone will be undertaken by hand. A 500 mm radius from any new tree stem will remain uncovered by turf or other planting to allow penetration of water and air into the soil.

New tree planting should be carried out in accordance with British Standard 8545:2014 Trees: from nursery to independence in the landscape – Recommendations.

Any herbicide used during the development works shall be systemic, spot applied, and mixed according to manufacturers' recommendations.

3.3.13 Preconstruction Recommendations

Auditable systems of site monitoring should be made available to the Local Planning Authority/Arboricultural Officer and included within the program of development construction as recommended within BS5837:2012. This should include a schedule of events whereby periods of supervision or input from the Project Arboriculturist is required (See Section 3.3.14 for contact details).

Carry out all tree works prior to any demolition or construction activity taking place.

A pre-commencement site meeting involving all interested parties should be convened to confirm;

- Confirmed location for Tree Protection Measures;
- Underground Services Installation Methodology;
- Site Compound location and set-up;
- Parking locations;
- Audit and Periods of Supervision.

3.3.14 Contact Details

Retained Arboricultural Consultant

Name: Marco Bartolini

Position: Arboricultural Consultant

Mobile: 07542 093882

Email: arborecoconsultancy@gmail.com

Local Authority Contact Details

Position: Tree Officer

Address: Eastleigh House, Upper Market St, Eastleigh SO50 9YN

Tel: [023 8068 8000](tel:02380688000)

Email: customerservicecentre@eastleigh.gov.uk

4. ARBORICULTURAL METHOD STATEMENT

An Arboricultural Method Statement is considered not to be required for the site as this is a relatively low-level project. In addition, the various aspects of the proposed demolition and construction phases can be supervised by the retained Arboricultural Consultant

Planning Context; National Planning Policy Framework

It is important to note that trees are a material consideration in the UK planning system and existing trees are an important factor requiring forethought when assessing the development potential of a site, whether they are within the working area or within such proximity to it that they may be affected by construction operations.

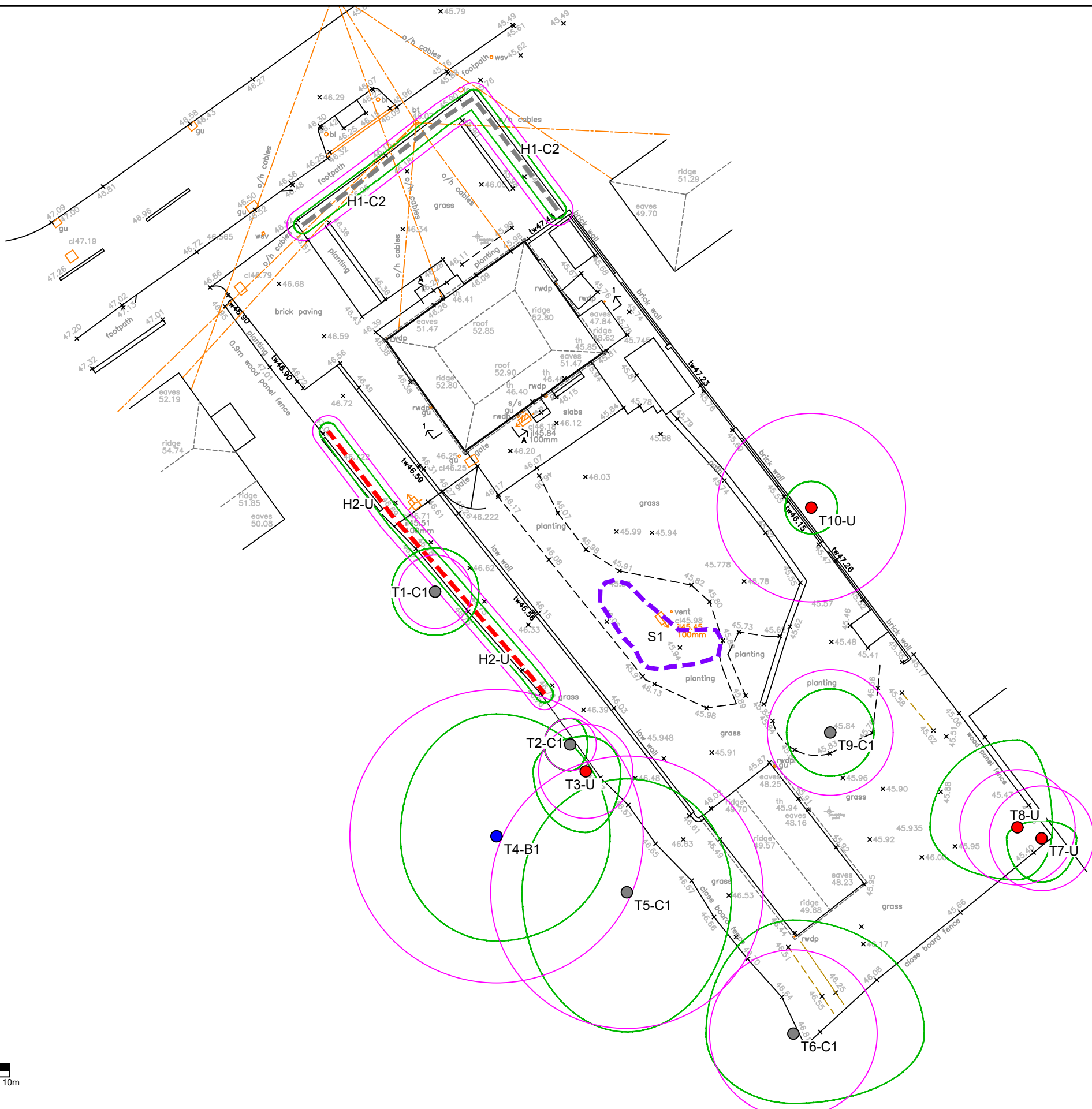
Environmental Benefits of Trees

It is worthwhile noting that the trees can intercept many of the hostile elements humans and animals need shelter from. Trees provide shading and offer significant humidity regulation and a cooling effect felt at ground level. All trees will consume a considerable amount of ground water that will regulate the local hydrology and may assist with the removal of local flooding issues. A mature tree will consume tens of thousands of litres of water during a year. A group of trees can provide an element of acoustic dampening effect at ground level and growing next to a road many tree species have been linked with the sequestration of impurities from the atmosphere. Finally, the trees will provide some shelter from prevailing winds and inclement weather. Therefore, it can be seen that the trees will benefit, rather than hinder, the landscape in which they are growing.

5. DRAWINGS

1. Drawing MB230114-01-01 Tree Constraints Plan
2. Drawing MB230114-01-02 Tree Protection Plan

General Notes
Do not scale off drawing - refer to the tree data schedule for accurate crown spread measurements.
Depictions of tree canopies are based on measurements taken to four cardinal compass points.
No liability of any kind is accepted for any omissions or inaccuracies in respect of this plan.
The original of this drawing was produced in colour; a monochrome copy should not be relied upon.
All rights reserved.



Key

 **Trees**
Showing Canopy extents, category colour and tag number (with category).

 **Category A**
Trees of high quality with an estimated remaining life expectancy of at least 40 years.

 **Category B**
Trees of moderate quality with an estimated remaining life expectancy of at least 20 years.

 **Category C**
Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm.

 **Category U**
Trees in such a condition that they can not realistically be retained as living trees in the context of the current land use for longer than 10 years.

 **Tree Groups**
Shown as dashed centre/boundary line. Colour represents category (see above)

 **Shrubs**

 **BS 5837:2012 Root Protection Area**


Arbor-Eco Consultancy
2 Daisy Lane, Locks Heath,
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Telephone: 07542 093882

Arboricultural Consultant
Marco Bartolini


Arboricultural Association
Technician Member

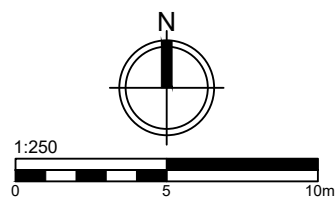
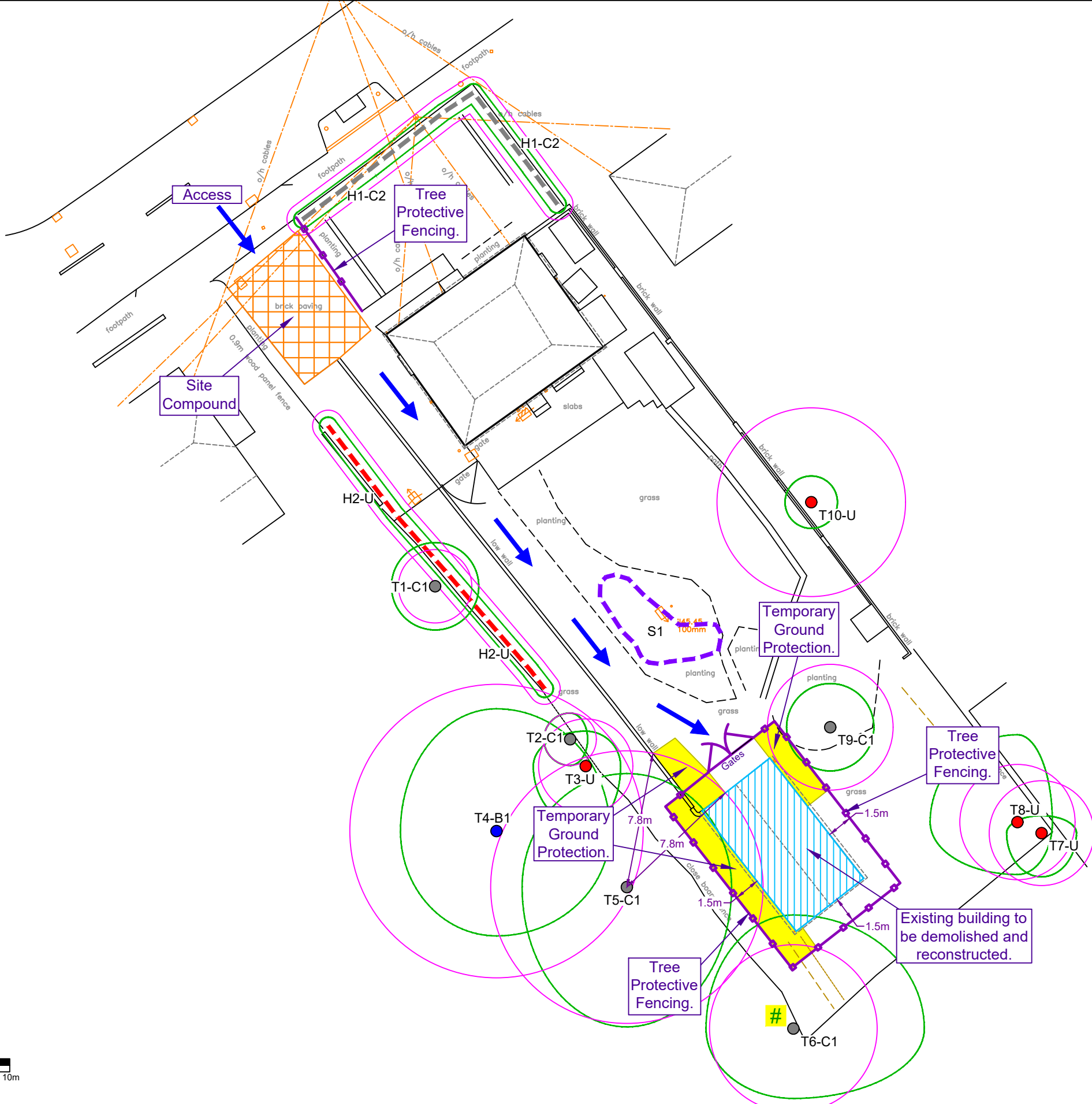
Client
Mr & Mrs Adcock

Project
Weymouth House, Bishopstoke.

Drawing Title
Tree Constraints Plan

Scale 1:250 - A3	Date 26/01/2023	DB CS	CB MB
Drawing Number MB230114-01-01		Rev A	

General Notes
Do not scale off drawing - refer to the tree data schedule for accurate crown spread measurements.
Depictions of tree canopies are based on measurements taken to four cardinal compass points.
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Key

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Category A
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Trees in such a condition that they can not realistically be retained as living trees in the context of the current land use for longer than 10 years.

Tree Groups
Shown as dashed centre/boundary line. Colour represents category (see above)

Shrubs

BS 5837:2012 Root Protection Area

Tree Protective Fencing

Ground Protection

Site Compound

Existing Building to be Demolished & Reconstructed

Facilitation Pruning Required

Access Route

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Email: arborecoconsultancy@gmail.com
Telephone: 07542 093882

Arboricultural Consultant
Marco Bartolini
Arboricultural Association Technician Member

Client
Mr & Mrs Adcock

Project
Weymouth House, Bishopstoke.

Drawing Title
Tree Protection Plan

Scale 1:250 - A3	Date 26/01/2023	DB CS	CB MB
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Drawing Number
MB230114-01-02

Rev
A

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APPENDICES

APPENDIX 1:	Table A1.1 – Tree Survey Schedule
APPENDIX 2:	Table A2.1 – Root Protection Areas of Category A, B and C Trees
APPENDIX 3:	Headings for Tree Protection Signs and Example Sign
APPENDIX 4:	Tree Protection Barriers (Default and Variant)

APPENDIX 1

Table A1.1 – Tree Survey Schedule

Tree No.	Species	No. Stems	Diam (mm)	H't (m)	H't 1 st Branch (m)	Branch Spread (m)				Crown Clearance (m)				Age	Phys Cond	Struc Cond	Est. Remain Contrib (Years)	Cat	Comments	Preliminary Management Recommendations
						N	E	S	W	N	E	S	W							
1#	Hazel	10+	<u>160</u>	5.0	0.0 S	<u>2.5</u>	<u>2.5</u>	<u>2.5</u>	<u>2.5</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	EM	G	G	10+	C1	- Previously coppiced. - Off-site tree. - Artificial structures within RPA. - Multi-stemmed at ground level.	None at time of survey
2#	Cherry Laurel	5	<u>120</u>	4.0	0.0 W	1.5	1.0	1.5	<u>1.5</u>	0.0	0.0	0.0	0.0	EM	G	G	10+	C1	- Off-site shrub. - Artificial structures within RPA. - Multi-stemmed at ground level.	None at time of survey
3#	Cherry Laurel	5	<u>210</u>	5.0	0.0 N	2.0	2.0	3.5	3.0	0.0	0.0	0.0	0.0	M	F	P	<10	U	- Off-site shrub. - Poor past management. - Side pruned over site. - Artificial structures within RPA. - Multi-stemmed at ground level.	None at time of survey
4#	Tulip Tree	1	<u>700</u>	21.0	4.0 N	<u>7.0</u>	<u>6.5</u>	<u>6.0</u>	<u>5.5</u>	4.0	4.0	4.0	4.0	M	G	G	20+	B1	- Artificial structures within RPA. - Off-site tree. - Restricted access prevented detailed assessment. - Previously crown lifted and crown reduced.	None at time of survey
5 #	Pear	3	<u>650</u>	8.0	2.0 S	<u>6.5</u>	<u>6.0</u>	<u>8.0</u>	<u>6.0</u>	1.0	1.0	1.0	1.0	OM	F	F	10+	C1	- Artificial structures within RPA. - Off-site tree. - Restricted access prevented detailed assessment. - Tree house in canopy. - Previously crown lifted and crown reduced. - Apical leader loss – fractured. - Bifurcated at ground level and 1.0 m above ground level.	None at time of survey
6 #	Wild Cherry	1	<u>400</u>	21.0	3.0 E	<u>6.5</u>	7.5	<u>4.0</u>	<u>5.0</u>	2.0	3.0	3.0	5.0	M	F	F	10+	C1	- Artificial structures within RPA. - Major hanging deadwood in canopy. - Off-site tree. - Restricted access prevented detailed assessment. - Exposed surface roots with mechanical damage.	Crown clean all deadwood
7	Sycamore	2	230	7.0	2.0 E	1.0	2.0	<u>2.5</u>	2.0	2.0	2.0	3.0	3.0	EM	F	P	<10	U	- Previously ring-barked. - Artificial structures within RPA. - Bifurcated at ground level. - Growing on bank and erosion evident.	Advise removal.

Table A1:1 Tree Survey Schedule (continues)

Tree No.	Species	No. Stems	Diam (mm)	H't (m)	Hft 1 st Branch (m)	Branch Spread (m)				Crown Clearance (m)				Age	Phys Cond	Struc Cond	Est. Remain Contrib (Years)	Cat	Comments	Preliminary Management Recommendations	
						N	E	S	W	N	E	S	W								
8	Horse Chestnut	1	<u>260</u>	5.0	2.0 E	5.0	2.0	3.0	5.0	2.0	2.0	2.0	2.0	EM	P	P	<10	U	- Regrowth from collapsed stem. - Artificial structures within RPA. - Poor past management and poor form. - Growing on bank and erosion evident.	Advise removal.	
9	Japanese Maple	4	<u>280</u>	4.0	0.0 S	2.5	2.5	2.5	2.5	1.0	1.0	1.0	1.0	M	G	G	10+	C1	Open grown garden tree.	None at time of survey	
10#	Lawson Cypress Elwoodii	<u>3</u>	<u>440</u>	7.0	0.0 E	<u>1.5</u>	<u>1.5</u>	<u>1.5</u>	<u>1.5</u>	0.0	0.0	0.0	0.0	M	P	P	<10	U	- Artificial structures within RPA. - Partial collapse of stems.	Inform neighbour of risk of retaining tree	
H1	Escallonia	1	<u>50</u>	1.5	0.0 W	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	M	G	G	10+	C2	- Artificial structures within RPA. - Managed boundary hedgerow.	None at time of survey	
H2	Ivy	1	<u>50</u>	1.5	0.0 S	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	M	F	F	<10	U	- Artificial structures within RPA. - Ivy clad boundary feature.	Will likely collapse due to weight of ivy.	
Key <u>Age Class</u> Y: Young = tree within first third of average life expectancy EM: Early mature = tree within second third of average life expectancy M: Mature = tree within final third of average life expectancy OM: Over mature = tree beyond average life expectancy V: Veteran = shows signs of retrenchment and in decline. D: Dead.						<u>Physiological Condition</u> G: Good = no health problems F: Fair = symptoms of ill health that may be remedied P: Poor = poor health D: Dead <u>Structural Condition</u> G: Good = no structural defects F: Fair = remedial structural defects P: Poor = significant structural defects D: Dead												<u>000</u> : Estimated measurement due to access restrictions RPA: Root Protection Area Major deadwood: branches in excess of 50 mm diameter Minor deadwood: branches/twigs less than 50 mm diameter Int: Interim category due to access restrictions. #: Trees growing within Area Tree Preservation Order.			

Table A1:1 (cont'd) Tree Survey Schedule

APPENDIX 2

Table A2.1 – Root Protection Areas of Trees Surveyed

Tree No.	Species	Diam (mm)	Approximate Root Protection Radius (m)	Root Protection Area (m ²)
1	Hazel	<u>160</u>	2.1	14
2	Cherry Laurel	<u>120</u>	1.5	7
3	Cherry Laurel	<u>210</u>	2.7	23
4	Tulip Tree	<u>700</u>	8.4	222
5	Pear	<u>650</u>	7.8	191
6	Wild Cherry	<u>400</u>	4.8	72
7	Sycamore	230	3.0	28
8	Horse Chestnut	<u>260</u>	3.3	34
9	Japanese Maple	<u>280</u>	3.6	41
10	Lawson Cypress Elwoodii	<u>440</u>	5.4	92
H1	Escallonia	<u>50</u>	0.9*	3*
H2	Ivy	<u>50</u>	0.9*	3*
Key: <u>000</u> : estimated dimensions due to access restrictions *: Average measurement taken around centre of hedgerow				

Table A2-1: RPA and Approximate Root Protection Radius of Trees Surveyed

APPENDIX 3

Headings for Protective Barrier Notices and Example Sign

Root Protection Area (RPA) Model Notice

DON'T excavate within this area
DON'T use any form of mechanical plant with this area
DON'T store materials, plant or equipment within this area
DON'T move plant or vehicles within this area

DO contact the Local Authority Arboricultural Officer or owner of the tree if excavation within this area is unavoidable

DO protect any exposed roots uncovered within this area with dry sacking

DO backfill with a suitable inert granular and top soil material mix as soon as possible on completion of work

ANY WORK in this area requires permission from the Local Authority Arboricultural Officer



**PROTECTIVE FENCING. THIS
FENCING MUST BE
MAINTAINED IN ACCORDANCE
WITH THE APPROVED PLANS
AND DRAWINGS FOR THIS
DEVELOPMENT.**



**TREE PROTECTION AREA
KEEP OUT !**

**(TOWN & COUNTRY PLANNING ACT 1990)
TREES ENCLOSED BY THIS FENCE ARE PROTECTED BY
PLANNING CONDITIONS AND/OR ARE THE SUBJECTS OF A
TREE PRESERVATION ORDER.
CONTRAVENTION OF A TREE PRESERVATION ORDER MAY
LEAD TO CRIMINAL PROSECUTION**

**ANY INCURSION INTO THE PROTECTED AREA MUST BE
WITH THE WRITTEN PERMISSION OF THE LOCAL
PLANNING AUTHORITY**

APPENDIX 4

Details of Protective Barrier (Default and Variant)

Figure 2 Default specification for protective barrier

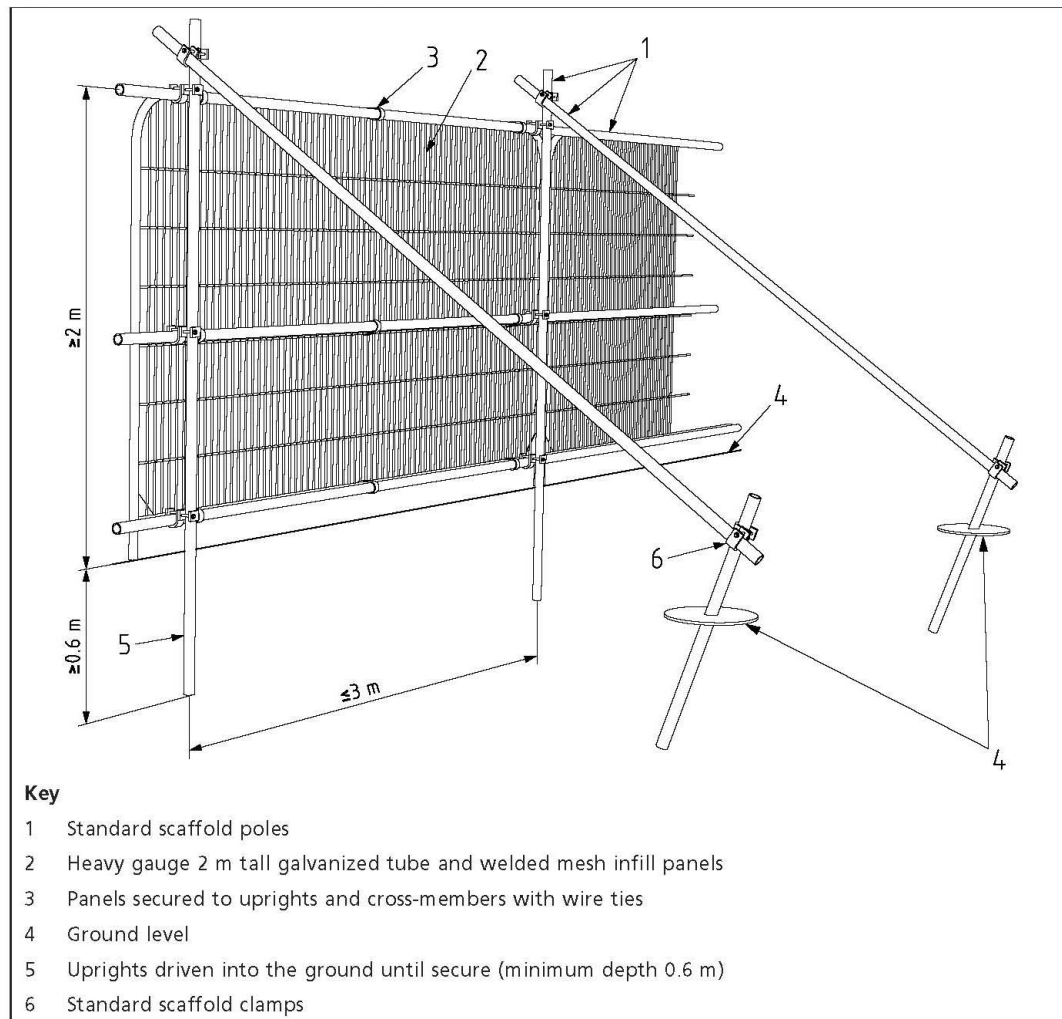


Figure 3 Examples of above-ground stabilizing systems

